

White Paper on Winter Park Rate Restructuring

Problem Statement

The Utilities Advisory Board has been tracking the slow to flat growth of electric demand among Winter Park Utilities' customers over the recent several years resulting from increasing end-use energy efficiency and the growing use of home-based (or rooftop) solar power arrays. Members of the Board have become concerned over the potential long-term implications of the current trends with respect to (i) the potential erosion of revenue sufficiency resulting from collecting nearly all costs in a variable manner, and (ii) the cross-subsidization of rooftop solar power customers by other customers that is a result of Florida's current Net Metering policy. What steps should the City take, if any, to ensure that Winter Park Electric has sufficient revenues in future years to maintain service readiness and financial solvency and that revenue collection is equitable and balanced such that all customers, including solar customers, pay their fair share of costs?

Background

For many decades, electric utilities in the U.S. were in the business of producing, marketing and selling power. They were so successful in promoting energy-consuming, labor-saving household appliances to be the norm among American households that by the early 70's, some utilities were discussing or instituting demand metering for water heaters and other appliances as a way of shifting electric load off peak to reduce unnecessary power plant construction. Sierra Pacific Power Company had the first Off-peak Load-shifting Advertising campaign reproduced and circulated by the Edison Electric Institute as a prototype.

The radical shift in how utilities did business was triggered by the OPEC Oil Embargo in 1973-4 and the U.S.'s subsequent drive for energy independence. Passage of the Public Utility Regulatory Policies Act (PURPA), a portion of the National Energy Act in 1978, was expressly designed to promote energy conservation in order to reduce demand and to increase use of domestic energy (fossil fuels) and renewable energy to increase supply. Among its provisions, the Act created the Federal Energy Regulatory Commission (FERC). FERC's policy to promote open access transmission is a material benefit to Winter Park's Electric Utility as a Network Service customer supplied by Duke Energy, OUC and Covanta.

These pieces of legislation were followed by the Energy Policy Act of 1992 and the Energy Policy Act of 2005.

The 2005 Act addresses energy production in the United States by changing US energy policy to provide tax incentives and loan guarantees for energy production of various types. The law also stipulated that an investor-owned utility must go through a formal process to consider net metering, which empowers, among other things, a renewable energy source (for example, a residential rooftop solar array) to connect to its grid if the equipment meets UL Certification or some other reasonable standard. Further, under the state of Florida's Net Metering requirement as passed in 2008, if the rooftop system produces excess power (over-generates) during certain optimal periods and/or low electric usage, the utility must credit the customer for that power for later use (and financially compensate the customer for any excess generation at the end of a period, in the case of Florida, a year, at the utility's avoided cost of energy).

Regulatory Environment in Florida

In Florida, investor-owned utilities are required to credit power generated from residential solar panels at full retail (at a 1:1 ratio), which results in a situation whereby the Net Metering customer with rooftop solar does not pay a fair share of the fixed costs of the system while it needs the same infrastructure in operation as those residential customers not generating solar power. Further, Florida municipal utilities adhere to the Net Metering requirements and the same full retail credit (a 1:1 ratio) for generation from solar panels. Some municipal utilities choose to provide additional credits (e.g. capacity credits), which increase the cross-subsidization of solar customers by non-solar customers.

Underlying Premise of Traditional Ratemaking

Utility rate structures traditionally have built much of fixed costs into a variable cost rate structure for social reasons (to reduce the impact on low user, low income households). The higher the usage, the higher the variable rate.

While residential customers with rooftop solar arrays must have access to electric supply infrastructure for those times solar generation is nonfunctional as well as to backfeed energy from their arrays to the distribution system, they are not paying their fair share of the infrastructure costs (transmission, distribution and feeder lines; substations and service personnel) because they are also classed as low users (because of the full retail credit generally afforded them through Net Metering on all of the energy produced by the solar panels). As the residential use of solar power increases, the misalignment in cost allocations (cross-subsidization) will magnify.

Concurrently, energy conservation and, more importantly, improved end-use energy efficiency (e.g. high efficiency lighting and air conditioning) also pushes customers into the lower usage strata as such impacts are realized. The result is that lower demand residential customers pay less of the fixed costs than are actually incurred to deliver power to them reliably, and the number of customers in this tier is increasing, which gradually magnifies the misalignment of costs and cost collection (rates).

Unintended Consequences of Conservation and Renewable Energy Policies

While there are positive impacts for society from these renewable energy and conservation policies and programs, there are significant unintended consequences for the long-term financial health of utilities that can also result in undue financial burden on certain classes of customers.

To understand the implications with Winter Park as an example, according to the Florida Municipal Power Agency (FMPA), an estimated 60% or more of power delivery costs are fixed while over 90% of cost recovery is variable (based on March 2018 Duke Energy retail tariff for 1,000 kWh). Variable costs are limited to the cost of energy, or only 2 to 3 cents per kilowatt hour according to FMPA.

If 50% of Winter Park's residential customers adopted rooftop solar, the City could lose as much as 52,000 MWh of energy per year which at 10 cents/kWh would reduce revenue by ~\$5.2M annually according to a presentation by FMPA. Non-solar generating customers would then further "subsidize" those self-generators, and rates might need to increase to make up for the shortfall in variably collected revenues. While municipal utilities do have the authority to increase rates at any time to cover their costs, perpetual rate increases to address ever-increasing rooftop solar investments exacerbates the problem by rendering self-generation more and more attractive relative to baseline retail rates. This leads to a furthering of the misalignment over time. Such a cycle is generally not financially sustainable for the utility or for customers that remain fully dependent on grid energy for power delivery.

Options

The growing misalignment in the current way utilities set rates and the marketplace realities led the Utilities Advisory Board to begin investigating options last Spring. FMPA made a presentation to the Board in June 2018 in which two options were discussed.

- Option 1: Market solar access at the utility-scale via financial subscriptions at a lower cost (than it would be from a rooftop system on a home) as an alternative. Offering utility-scale solar power to interested customers through a small cost added on their bill (to cover administrative and billing costs as well as the price difference in solar energy, which could become a price credit over time) would reduce pressure on the distribution system caused by rooftop solar arrays and enable multi-family homes, low income customers, and homes unsuited for rooftop photovoltaic systems to participate.
- Option 2. Gradually increase the customer charge per month across the system in a way that sends the appropriate price signal and begins the process of better aligning costs.

Utility-scale solar costs approximately 1/3 of rooftop solar. While 72% of customers support solar according to an FMPA customer survey, only 13% are “very likely” to pay more per month for it. Winter Park Electric is pursuing utility-scale solar via a power purchase agreement for a portion of a solar farm being built by NextEra’s Florida Energy Renewables to increase renewables in its power mix.

Option 2, to begin improving alignment between fixed and variable costs by gradually increasing the customer charge per month raised a lot of interest among the Board members. It is already beginning to be addressed nationally and statewide and the average customer charge is beginning to creep upward. Florida Rural Electric Cooperatives have raised their per meter charges to \$15 to \$45. In 2018, Florida municipal and investor-owned utilities had customer charges ranging from \$3.50 to \$19.50. The State’s Municipal average customer charge is currently \$9.18, and Winter Park’s is \$15.44.

Implementing Option 2

There are potential negatives to fully implementing Option 2 as demonstrated in the computer modelling developed by Wes Hamil, Winter Park CFO. A subcommittee of the Board met with him in February to generate a variety of customer charge scenarios using tiered rates. The following issues were discussed:

- Higher customer charges may result in a “bill shock” effect for lower level users as the customer charge could eclipse their prior average bill. Tiered

rates could be used to protect low end users, but a proportional shift in the burden to mid-level users would need to be managed. At the same time, the highest users would receive a discount as a function of a greater emphasis on fixed charges (and a commensurate decline in variable charges required to keep the utility revenue-neutral).

- Depending on price sensitivity and the size of the increase, higher customer charges could reduce the incentive to reduce kWh usage.
- Much higher customer charges would represent a major departure from other Municipal electric utilities and could invite extra scrutiny from the Public Service Commission to the extent more nuanced changes (e.g. tiers) trigger a rate structure review by Public Service Commission staff.
- There are currently no other Florida Municipal electric utilities with tiered customer charges.

Utility Advisory Board Consensus & Next Steps

The Board has taken a position on the following:

1. Gradually increase the customer charge between 10% and 20% per year over the next 5-10 years with recurring review of the utility's financial position and customer impacts.

There has been discussion and support among some members for the following:

2. Monitor ratemaking trends among Florida municipal utilities re: customer charges and benchmark Winter Park's against them.
3. Monitor Net Metering compensation trends for solar power among utilities and the regulatory climate within the Florida Public Service Commission affecting Net Metering which might become a tool to eliminate the cost burden for non-solar customers.
4. Develop a longer-term, more nuanced strategy to achieve a more appropriate pricing structure and better align costs with reality, which might require discussions with the Public Service Commission based on how much complexity is proposed relative to the classification system used in justifying different rates between various customer classes and how significant the proposed changes are on the various classes of rate-payers.
5. In conjunction with item action 4 above, investigate utility staffing/resource/technology requirements to ensure adequate human and technological (e.g. billing system) resources are in place to effectuate a more nuanced rate strategy.

Role of Public Utilities Commission

There was substantial discussion this spring about the role and responsibilities of the Florida PSC regarding municipal utilities. The FMPA provided a discussion of its statutory responsibilities and the process that it would follow for a rate structure evaluation. FMPA staff stated that, “Introduction of tiers or other charges with more limited precedent may trigger a rate structure review and could require justification.” Is it cost-based; is there historical precedent; does it embody pricing concepts previously approved by the Commission; and is it not unduly discriminatory? FMPA thought that customer charge increases applied gradually without tiers and without changing existing cost ratios among retail classes “are highly unlikely to trigger rate structure review.”

Cost of Service Study

The PSC discussion led to the issue of a cost of service study which is being considered as a next step. Staff reported that there has not been one since Winter Park bought the service area from Duke Energy and the legacy rate regime was adopted without adjustments to Duke’s structure. A cost of service study would enable outside experts to provide the foundation for a rate design strategy and to support interaction with the Public Service Commission when that rate design might be brought forward.

Possible Stakeholder Actions

What are the actions that the members of the Winter Park Utilities Advisory Board now need to consider?

- Advocate on behalf of the need for a more comprehensive rate structure realignment?
- Formally adopt some or all of Steps 2-5 listed above?
- Recommend a Cost of Service Study to the City Manager and Commission?